I claim:

1. A vibrator apparatus comprising:

a base;

an armature plate resiliently mounted to said base;

an armature of magnetically attracted material mounted to said armature plate;

a first electromagnet mounted to said base in a spaced apart relationship to said armature;

a second electromagnet mounted to said base in a spaced apart relationship to said armature; and

a circuit for generating electrical pulses having a first output connected to said first electromagnet and a second output connected to said second electromagnet, said circuit configured to deliver electrical pulses to said second electromagnet at a phase angle with respect to said first electromagnet, thereby inducing an orbital motion in said armature.

2. The vibrator apparatus of claim 1, wherein said circuit is configured to deliver electrical pulses to said first electromagnet and said second electromagnet at a variable frequency.

3. The vibrator apparatus of claim 1, wherein said circuit is configured to deliver electrical pulses to said first electromagnet and said second electromagnet at a variable phase angle.

4. The vibrator apparatus of claim 1, wherein said circuit is configured to deliver electrical pulses to said first electromagnet and said second electromagnet with a variable duty cycle.

5. The vibrator apparatus of claim 1, wherein said circuit is configured for connection to a source of alternating current and wherein said circuit comprises a frequency doubler for doubling a frequency of the alternating current.

6. The vibrator apparatus of claim 1, wherein said circuit is configured for connection to a source of alternating current and wherein said circuit comprises a frequency divider for reducing a frequency of the alternating current to a desired operating frequency.

7. The vibrator apparatus of claim 1, wherein said circuit comprises an oscillator for generating electrical pulses at a selected oscillator frequency and a frequency divider for reducing the oscillator frequency to a desired operating frequency.

8. The vibrator apparatus of claim 7, wherein said oscillator comprises an RC oscillator.

9. The vibrator apparatus of claim 7, wherein said oscillator comprises a crystal oscillator.

10. The vibrator apparatus of claim 1, wherein said circuit comprises a microprocessor for controlling said circuit to deliver electrical pulses to said first electromagnet and said second electromagnet at a selected frequency, phase angle and duty cycle based on user input.

11. The vibrator apparatus of claim 1, wherein said circuit comprises a source of electrical pulses and a pulse counter for selectively delivering the electrical pulses to said first electromagnet and said second electromagnet at a selected phase angle.

12. The vibrator apparatus of claim 1, wherein said circuit comprises a source of electrical pulses at a source frequency and a frequency divider for reducing the source frequency

to a desired operating frequency and a pulse counter for selectively delivering the electrical pulses to said first electromagnet and said second electromagnet at a selected phase angle.

13. The vibrator apparatus of claim 1, wherein said circuit comprises a mode selector switch for selectively operating the vibration generator in a circular orbital vibratory mode, an elliptical vibratory mode and a reciprocating vibratory mode.

14. The vibrator apparatus of claim 1, wherein said armature comprises a first armature bar and a second armature bar, said first electromagnet being mounted in a spaced apart relationship to said first armature bar, and said second electromagnet being mounted in a spaced apart relationship to said second armature bar.

15. The vibrator apparatus of claim 14, wherein said first electromagnet is mounted at approximately a right angle to said second electromagnet.

16. The vibrator apparatus of claim 1, wherein said armature plate is resiliently mounted to said base by a multiplicity of flexural spring elements.

17. The vibrator apparatus of claim 16, wherein said armature plate is resiliently mounted to said base by three flexural spring elements.

18. The vibrator apparatus of claim 16, wherein said flexural spring elements are constructed of spring steel.

19. The vibrator apparatus of claim 16, wherein said flexural spring elements are approximately round in cross section.

20. The vibrator apparatus of claim 16, wherein said flexural spring elements are adjustable to vary a spring rate of said flexural spring elements.

21. The vibrator apparatus of claim 1, wherein said armature plate is resiliently mounted to said base by an adjustable rate spring element.

22. A vibrator apparatus comprising:

a base;

an armature plate resiliently mounted to said base;

an armature of magnetically attracted material mounted to said armature plate;

a plurality of electromagnets, including a first electromagnet and a second electromagnet, said first electromagnet mounted to said base in a spaced apart relationship to said armature, and said second electromagnet mounted to said base in a spaced apart relationship to said armature; and

a source of alternating current connected to said first electromagnet and to an input of a phase shifting circuit, an output of said phase shifting circuit being connected to said second electromagnet.

23. The vibrator apparatus of claim 22, wherein said first electromagnet is mounted at a mounting angle with respect to said second electromagnet and said phase shifting circuit phase shifts the alternating current from said source of alternating current by a phase shift angle approximately equal to said mounting angle.

24. The vibrator apparatus of claim 22, wherein said first electromagnet is mounted at approximately a right angle to said second electromagnet, and said phase shifting circuit phase shifts the alternating current from said source of alternating current by a phase shift angle of approximately ninety degrees.

25. The vibrator apparatus of claim 22, further comprising a variable voltage transformer connected to said source of alternating current.

26. The vibrator apparatus of claim 22, wherein said armature is permanently magnetized.

27. The vibrator apparatus of claim 22, wherein said circuit comprises a mode selector switch for selectively operating the vibration generator in a circular orbital vibratory mode, an elliptical vibratory mode and a reciprocating vibratory mode.

28. A vibrator apparatus comprising:

a base;

an armature plate resiliently mounted to said base;

an armature of magnetically attracted material mounted to said armature plate;

a plurality of electromagnets, including a first electromagnet and a second electromagnet, said first electromagnet mounted to said base in a spaced apart relationship to said armature, and said second electromagnet mounted to said base in a spaced apart relationship to said armature; and

a source of alternating current configured to deliver alternating current to said first electromagnet at a first amplitude and to said second electromagnet at a second amplitude, thereby inducing an elliptical motion in said armature.

29. The vibrator apparatus of claim 28, further comprising means for varying said first amplitude and said second amplitude.

30 The vibrator apparatus of claim 28, wherein said source of alternating current is configured to deliver alternating current to said first electromagnet at a variable phase angle with respect to said second electromagnet.

31. The vibrator apparatus of claim 28, wherein said circuit comprises a mode selector switch for selectively operating the vibration generator in a circular orbital vibratory mode, an elliptical vibratory mode and a reciprocating vibratory mode.